

Claims

1 (currently amended). A method for performing a handoff of a mobile device from a first wireless media gateway (WMG) to a second WMG, wherein the first and second WMGs are controlled by a single call server in a wireless softswitch, and wherein the first WMG includes first and second bi-directional termination points connecting the first WMG to the mobile device and another party, respectively, the method comprising:

establishing bi-directional fourth and fifth termination points in the second WMG to prepare the second WMG for communicating with the mobile device and the first WMG, respectively;

establishing a uni-directional third connection point in the first WMG and connecting the third termination point to the fifth termination point in the second WMG;

connecting the second and third termination points;

converting the third termination point from uni-directional to bi-directional; and

converting the first termination point from bi-directional to uni-directional, wherein communications to the mobile device from the other party are routed through the second, third, fifth, and fourth termination points, respectively.

2 (Original). The method of claim 1 further comprising deleting the first termination point when the handoff is complete.

3 (Original). The method of claim 1 further comprising converting the first termination point back to bi-directional from uni-directional if the handoff fails.

4 (Original). The method of claim 1 further comprising creating an internet protocol connection between the first and second WMGs to carry the communications between the mobile device and the other party.

5 (Original). The method of claim 1 further comprising creating a switched virtual channel between the first and second WMGs to carry the communications between the mobile device and the other party.

6 (Original). The method of claim 1 wherein the third termination point is converted to bi-directional only after a handoff detect message is received by the call server.

7 (currently amended). A method for performing a handoff of a mobile device from a first wireless media gateway (WMG) to a second WMG, wherein the first and second WMGs are controlled by a single call server in a wireless softswitch, and wherein the first WMG is in communication with the mobile device through a first base station subsystem (BSS) connected to the first WMG via a bi-directional first termination point and is in communication with a connected party via a bi-directional second termination point, the method comprising:

sending at least one message from the call server to the second WMG to create bi-directional fourth and fifth termination points to prepare the second WMG for communicating with the mobile device via a second BSS and with the first WMG, respectively;

sending at least one message from the call server to the first WMG to establish a uni-directional third termination point in the first WMG, wherein the first and second WMGs are connected via the third and fifth termination points;

sending at least one message from the call server to the first WMG to connect the second and third termination points; and

sending at least one message from the call server to the first WMG to convert the third termination point from uni-directional to bi-directional and the first termination point from bi-directional to uni-directional.

8 (Original). The method of claim 7 further comprising sending at least one message from the call server to the first WMG to delete the first termination point when the call server receives a message indicating that the handoff is complete.

9 (Original). The method of claim 7 further comprising creating an internet protocol connection between the first and second WMGs to carry the communications between the mobile device and the other party after the third termination point is established.

10 (Original). The method of claim 7 further comprising creating a switched virtual channel between the first and second WMGs to carry the communications between the mobile device and the other party after the third termination point is established.

11 (Original). The method of claim 7 further comprising:
handing off the mobile device to a third WMG controlled by the call server by connecting the third termination point with a sixth termination point created in the third WMG; and
establishing a seventh termination point connected to the sixth termination point, wherein the seventh termination point connects the third WMG to a third BSS in communication with the mobile device.

12 (currently amended). A system for managing a handoff of a mobile device, the system comprising:

a wireless softswitch, said wireless softswitch including a call server;

first and second wireless media gateways (WMGs) controlled by the call server and accessible to one another;

first and second base station subsystems (BSSs) connected to the first and second WMGs, respectively, and

a plurality of computer executable instructions for execution within the system, the instructions including:

instructions for establishing a communication channel between the mobile device and a connected party through the first WMG via a context created using first and second termination points, respectively;

instructions for sending at least one message from the call server to the second WMG to create fourth and fifth termination points to prepare the second WMG for communicating with the mobile device and the first WMG, respectively;

instructions for sending at least one message from the call server to the first WMG to establish a third connection point in the first WMG, wherein the first and second WMGs are connected via the third and fifth termination points;

instructions for sending at least one message from the call server to the first WMG to create a context using the second and third termination points; and

instructions for sending at least one message from the call server to the first WMG to ensure that the third termination point is bi-directional and the first termination point is uni-directional.

13 (Original). The system of claim 12 further comprising instructions for sending at least one message from the call server to the first WMG to delete the first termination point.

14 (Original). The system of claim 13 wherein the first termination point is deleted only after a message indicating that the handoff is successful is received by the call server.

15 (Original). The system of claim 12 wherein communications between the first and second WMGs use voice over internet protocol (IP), and wherein the system further comprises instructions for creating an IP connection between the first and second WMGs.

16 (Original). The system of claim 15 wherein the IP connection is created after the third termination point is established.

17 (Original). The system of claim 12 wherein communications between the first and second WMGs use a voice over asynchronous transfer mode connection, and wherein the system further comprises instructions for creating a switched virtual channel between the first and second WMGs.

18 (Original). The system of claim 17 wherein the switched virtual channel is created after the third termination point is established.

19 (Original). The system of claim 12 wherein communications between the first and second WMGs use a voice over time division multiplexing connection.

20 (currently amended). A method for handing off a mobile device from a first wireless media gateway (WMG) to a second WMG, wherein the first and second WMGs are controlled by a single call server in a wireless softswitch, and wherein the first WMG includes first and second termination points connecting the first WMG to the mobile device and another party, respectively, the method comprising:

- creating fourth and fifth termination points in the second WMG to provide an interface for the second WMG to communicate with the mobile device and the first WMG, respectively;
- establishing a third termination point in the first WMG, wherein the third and fifth termination points link the first and second WMGs;
- creating a context with the second and third termination points; and
- making the third termination point bi-directional.

21 (Original). The method of claim 20 further comprising, if the first termination point is bi-directional, converting the first termination point from bi-directional to uni-directional.

22 (Original). The method of claim 20 wherein the mobile device is handed off to a third WMG controlled by the call server, the method further comprising:

- creating sixth and seventh termination points in the third WMG to provide an interface for the third WMG to communicate with the mobile device and the first WMG, respectively; and
- linking the third termination point to the seventh termination point to provide a communication channel between the mobile device and the other party.

23 (Original). The method of claim 20 wherein the mobile device is handed back to the first WMG, the method further comprising:

- if the first termination point is uni-directional, converting the first termination point from uni-directional to bi-directional; and
- making the third termination point uni-directional.

24 (Original). The method of claim 23 further comprising deleting the third termination point after the mobile device is successfully handed back to the first WMG.

25 (Original). The method of claim 23 further comprising, if the first termination point does not exist, creating the first termination point.